

FOCUS

ON Food Safety



Oklahoma Cooperative Extension Service • Oklahoma State University
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Each year in the United States between 6.5 million and 81 million people experience foodborne illness. The range is wide because most don't report their illness. Many may not associate the flu-like symptoms with food. We do know that up to 9,100 deaths each year are associated with foodborne illnesses. We also know that two to three percent of cases lead to secondary long-term illnesses such as reactive arthritis, kidney failure, meningitis, and Guillain-Barre syndrome.

Foodborne illness is costly. In 1993 the costs from lost productivity, hospitalization, long-term disability and death in the United States were between \$5.6 and \$9.4 billion.

Putting safe food on the table requires a continuous chain of responsible behavior and proper handling of food throughout the food system. If that chain is broken at any point, foodborne illness can result. Today, the weak link in the chain is often the consumer, who may lack and/or fail to practice safe handling procedures.

The Oklahoma FoodSafe Program is working primarily with consumers to increase the safety of the food supply in our state. By increasing consumers' awareness of their responsibility and the steps to take to reduce their risk of foodborne illness, we will assist Oklahomans to stay healthy.

This issue of Focus features the food safety efforts of the Oklahoma Cooperative Extension Service—Family and Consumer Sciences program. Your questions and suggestions for improving the program are always welcome.

— Lynda Harriman

Associate Dean/Assistant Director,
Oklahoma Cooperative Extension Service



In This Issue –

- Food Safety Programs for Oklahoma Consumers
- Operation Clean hands

Food Safety Programs for Oklahoma Consumers

Foodborne illness generally refers to illnesses caused by microorganisms consumed while eating any type of food. When people complain of “food poisoning,” they probably have been exposed to the microorganisms that cause foodborne illness. Microbes, bacteria and pathogens are other terms used to describe the microorganisms that cause foodborne illness.

Effects of foodborne illness can range from relatively minor discomfort to more serious symptoms and manifestations such as fever, diarrhea, dehydration and even death. The acute illnesses posed by foodborne organisms, coupled with the ease and swiftness with which they develop, present food safety challenges for the entire food distribution chain, including producers, packers and shippers, processors and manufacturers, retailers and consumers.

There are five basic categories of foodborne illness agents:

- **Bacteria** – Bacteria account for more than two-thirds of all outbreaks of foodborne illness in the United States.
- **Viruses** – Viruses are too small to be seen with any ordinary microscope, and they grow or reproduce only in living cells. They are often found in untreated water. In addition, viruses from human feces on inadequately washed hands can be a source of foodborne disease.
- **Parasites** – Food and water can carry such parasites as tapeworms, roundworms and certain species of protozoa.
- **Food toxins** – Toxins, can be formed by microorganisms in improperly stored food.
- **Unknown** – Most foodborne illnesses are classified as “unknown,” because no laboratory analysis is ever conducted to verify the specific agent or cause.

It is important to emphasize that since there are literally thousands of different strains of bacteria that can cause foodborne disease, it would be difficult to educate consumers on specific practices for avoid-



— Oklahoma Cooperative Extension Service —

ing each one. However, it is possible to educate them on practices which will reduce their risk overall. That is the goal of the Oklahoma FoodSafe Program. The program has included food safety education in a variety of projects including:

- Oklahoma Healthy Living Program
- Leader training for Family & Community Educators
- “Oklahoma Gardening” public television program
- “Tasty Safety Hints” public service announcements
- Special county projects

Oklahoma Healthy Living Program

This program helps consumers improve their personal health by providing them with sound food and nutrition information and helps them translate that information into appropriate everyday behaviors.

Healthy Living is the adult component of the program. Food safety information is included in each of the eight lessons in the series along with nutrition and food preparation education. The food safety education in the series focuses on reducing risks of illness by minimizing the primary causes of foodborne illness—leaving foods at warm temperatures too long, cross contamination, poor personal hygiene, and failure to cook foods to the proper end point temperature. As a result of this food safety



programming, 83 percent of participants increased their knowledge about food safety, according to a test given. In the last four years, 606 people have completed the program.

The youth component, SNAP (Super Nutrition Activity Program), contains food safety education for children in grades one through five. The primary focus is on reducing the risks associated with undercooked ground meats by encouraging children to always check for a brown color throughout their hamburgers before taking a bite. This program has been underway only one year but of the 63 children who completed the “Is Your Ground Brown?” training, a significant increase was observed in food safety behavior. For the question, “I check my hamburger to see it is brown all the way through before I eat it,” 43 percent of youth increased their test scores.

Family & Community Educators

Food safety risks are higher for some parts of our population than others. Those at particular risk are the elderly, the very young (including prenatal children), and those who suffer another condition which weakens their immune system such as diabetes, cancer, or AIDS. Members of Family & Community Educators clubs often fall into one of these categories or are responsible for the care of someone who does. Helping them reduce their risk of foodborne illness is especially important.

In the spring of 1999 leader training was provided across the state to representatives of each county. There is a potential for the training to reach 4,894 club members in 453 clubs in Oklahoma. Training focused on specific actions that could be taken to reduce risk such as the use of a meat thermometer to determine the doneness of meats, safe tips for shopping for food, safe preparation of home canned vegetables and meats, and safe food storage practices.

After members receive training in their clubs each will be asked to commit to making one change in the way they handle food that will reduce their risk of foodborne illness. At the next club meeting they will report on whether or not they have made that change. That information will be compiled at the state office to determine the impact of the training.

Oklahoma Gardening



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“Oklahoma Gardening”

Food safety education on proper storage and preservation of garden produce is provided during regular segments of the “Oklahoma Gardening” television program. This program is produced by the Oklahoma Cooperative Extension Service and airs throughout the state on OETA and its translator stations, reaching 175,000 viewers each week. Kitchen segments focus on the nutrition and safety of foods produced by gardeners throughout the state. Emphasis is placed on proper procedures for home canning of vegetables because errors in those processes can result in the deadly foodborne illness, botulism. Canners must be sure their equipment is in good working order and prepare home canned vegetables and meats by boiling for a minimum of 10 minutes before tasting to assure their foods are safe to eat.

Tasty Safety Hints

In 1998 two 30-second public service announcements were developed for use by commercial television media. The first used outdoor grilling to reinforce the importance of cooking ground beef thoroughly; the second reminded cooks to put away leftovers quickly. The PSA's were humorous as well as educational. Each PSA included a toll free number for consumers to call for more detailed information. Also prepared were radio PSA spots,

press packets, and a consumer brochure with recipes and food safety information. Combining television, radio, and print audience estimations the campaign reached more than 800,000 Oklahoma households.

Special coverage of the summer Tasty Safety Campaign brought even more attention to the effort. The staff from the morning show at Tulsa's CBS affiliate, Channel 6, welcomed **Barbara Tricinella**, one of Tulsa's county Extension educators. She discussed the dangers of leaving ground beef at room temperature and not cooking it to a high enough temperature. She also demonstrated the proper way to pack an ice chest for outdoor picnicking. Tricinella also presented similar information on NBC affiliate Channel 2 in Tulsa during the fourth of July weekend. **Claire Powell**, an Oklahoma County Extension educator, did an interview with OETA about the summer food safety information and it ran on every OETA outlet on the Fourth of July weekend. These special segments reached an estimated 175,000 households.

Barbara Brown
Extension Food Specialist

Special County Projects

Food Storage

Quantity Food Preparation training “Cooking for a Crowd” was conducted for FCE members in 6 counties, reaching 96 individuals directly, and about 500 through local lessons. It was also conducted for four civic/service groups who serve large events once a year, and eight church circles where the emphasis was on keeping potluck dinners safe.

The training was put to use by FCE groups in **Grady County** who manage a food booth and serve six full meals to 1800 people during the county fair. As membership declined and remaining members got older, it became necessary to do a lot of preparation ahead of time. Prior to the initial training, their plan was to let foods like chili and chicken broth cool at room temperature before packaging and freezing for use the next week. The first year after the training, members discussed their options for cooling two cookers of chili and a large stockpot full of chicken broth. After



a few minutes, they put ice water in the sinks and put the pots in the ice water. After 15 minutes of stirring, the chili and the broth were cool enough to safely package and freeze. Several members indicated they would use the same technique at home. The simple step of cooling the food quickly reduced the risk of foodborne illness for 1800 people.

Susan Murray
Extension Educator, Grady County

Food Safety Principles

Civic organizations, church groups, and other volunteer organizations prepare food for the public on a regular basis during fundraising, educational, and entertainment events. One of these organizations is the Association for Family and Community Education (FCE). An educational leader training lesson was held on the “Practicing Food Safety Principles in Large Groups.”

The lesson was presented in **Lincoln, Okfuskee, and Okmulgee counties** to 23 FCE lesson leaders who then presented the information to their local members. More than 200 members were reached this way.

Two of the counties reported an average of 63 percent of participants increased their knowledge of safe food handling practices. Also as a result of the program brightly colored posters on “*Keeping Hot Foods Hot...*,” “*Making a Sanitizing Solution...*,” “*The Clean Worker...*,” etc. can be seen in public kitchens throughout the three county area. One participant was quoted: “I have always considered myself a “clean cook” but as a result of this program, I have gained knowledge of the importance of proper preparation for freezing and refrigeration and proper thawing methods which have been very beneficial.”

Jan Maples
Extension Educator, Okfuskee County

Operation Clean Hands

Handwashing is one of the most important means of preventing the spread of foodborne illness and disease. Because it is a skill best learned at a young age, elementary children were the target audience for "Operation Clean Hands." This project taught children not only the importance of washing hands, but also the correct technique.

Children in Hughes County learned through a story how germs are invisible and that holding hands, coughing, sneezing, sharing toys, and playing with pets can spread them to food or to other people. They learned the importance of washing hands before eating and after going to the bathroom. As the county educator discussed where germs might be, the children passed around pencils, markers, and small toys that had been contaminated with invisible "fake" germs (a fluorescent powder that glows under a blacklight). Children then looked for "fake" germs under the blacklight on their hands both before and after washing. If they didn't do a good job

washing their hands, the glow still remained under the blacklight.

Students were taught how to properly wash hands for twenty seconds. They were encouraged to sing "Itsy Bitsy Spider" while washing because it takes about 20 seconds to sing.

Children and teachers loved the program and were amazed to see the glowing germs. All agreed to wash their hands more often. Students were given information on handwashing and worksheets to reinforce the concepts as well as a note to parents stressing the importance of setting a good example and encouraging children to wash their hands.

The fluorescent light was purchased through an OCES-FCS Ambassador's grant. This equipment has also been used at health fairs, childcare providers conferences, food safety classes, alternative schools, and health and hygiene classes for Nutrition Education Assistant training.

Tracy House

Extension Educator, Hughes County

HANDWASHING KEEPS US HEALTHY!



Encouraging children and adults to wash their hands is well worth the effort.

FOCUS is a publication designed to direct attention to innovative Cooperative Extension Family and Consumer Sciences programs and to share program philosophy and updates of new and changing program directions. Your comments and suggestions for topics for future issues are welcomed and appreciated. Please send all correspondence to FOCUS, Family and Consumer Sciences Cooperative Extension, 104 HES, Oklahoma State University, Stillwater, OK 74078. FOCUS is published three times yearly by the Family and Consumer Sciences Cooperative Extension program.

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